



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification 6 :</b> <b>G01B 7/34, G01N 27/00, 33/543, H01J 37/317, G11B 9/00</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 98/05920</b> <b>(43) International Publication Date:</b> 12 February 1998 (12.02.98)
<b>(21) International Application Number:</b> PCT/US97/13896 <b>(22) International Filing Date:</b> 8 August 1997 (08.08.97) <b>(30) Priority Data:</b> 60/023,732 8 August 1996 (08.08.96) US <b>(71) Applicant (for all designated States except US):</b> WILLIAM MARSH RICE UNIVERSITY [US/US]; 6100 Main Street, Houston, TX 77843 (US). <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> COLBERT, Daniel, T. [US/US]; 1911 Milford Street, Houston, TX 77098 (US). DAI, Hongjie [CN/US]; 365 Pescadero Terrace, Sunnyvale, CA 94086 (US). HAFNER, Jason, H. [US/US]; 2129 Banks, Houston, TX 77098 (US). RINZLER, Andrew, G. [US/US]; 6666 Chetwood Drive #171, Houston, TX 77081 (US). SMALLEY, Richard, E. [US/US]; 1816 Bolsver Street, Houston, TX 77005 (US). <b>(74) Agents:</b> TATE, Rodger, L. et al.; Baker & Botts, L.L.P., The Warner, 1299 Pennsylvania Avenue, N.W., Washington, DC 20004 (US).		<b>(81) Designated States:</b> AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
<b>(54) Title:</b> MACROSCOPICALLY MANIPULABLE NANOSCALE DEVICES MADE FROM NANOTUBE ASSEMBLIES		
<b>(57) Abstract</b> <p>Macroscopically manipulable nanoscale devices made from nanotube assemblies are disclosed. The article of manufacture comprises a macroscopic mounting element capable of being manipulated or observed in a macroscale environment, and a nanoscale nanotube assembly attached to the mounting element. The article permits macroscale information to be provided to or obtained from a nanoscale environment. A method for making a macroscopically manipulable nanoscale devices comprises the steps of (1) providing a nanotube-containing material; (2) preparing a nanotube assembly device having at least one carbon nanotube for attachment; and (3) attaching said nanotube assembly to a surface of a mounting element.</p> <div data-bbox="727 1171 1445 1911"> </div>		

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakhstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						